OVERVIEW & RECOMMENDATIONS

Trans-Lake Washington Study

SR 522

- Add bus lanes
- Add bike/pedestrian and safety improvements
- East-west connectors

Kirkland/Seattle

- Study passenger ferries

SR 520

Evaluate these alternatives* in EIS:

- Replace existing floating bridge – four general purpose lanes
- "Minimal footprint" with improved transit/HOV access
- Add one HOV lane in each direction
- Add one HOV lane in each direction and high capacity transit
- Add one HOV lane in each direction and one general purpose lane in each direction
- Add one HOV lane in each direction, high capacity transit, and one general purpose lane in each direction

*for all alternatives, add bike and pedestrian paths

Transportation Demand Management (TDM) & Transportation Systems Management (TSM)

- Analyze effects of committing substantial resources to TDM & TSM

Land Use Plans
Transit & Vanpool Subsidies
Trip Reduction Goals
Improved HOV/Bus System
Corridor Agreements
Ramp Meters
??? Transportation Pricing

Mitigation & Enhancements

- Use sensitive project design to avoid or minimize impacts
- Engage affected communities in developing mitigation & enhancements

Lids
Noise Walls
Enhancements
Tunnels
????

I-90

- Continue Sound Transit study of two-way HOV
- Preserve option to convert center roadway to high-capacity transit
- Enhance freight mobility

Involve Affected Communities and the Public

OCTOBER 1999

Washington State Department of Transportation

inside

Study done by Washington State Department of Transportation Office of Urban Mobility with support from Enviroissues, Parametrix, Inc., CH2M HILL, Parsons Brinckerhoff, Norton-Arnold & Janeway, and Pacific Rim Resources.

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The Short Story

On July 16, 1999, the Trans-Lake Washington Study Committee reached a historic agreement to recommend an array of alternative solutions for improving traffic mobility across and around Lake Washington. The agreement culminated more than a year of intensive work by the committee, which represented local governments, state and regional agencies, as well as neighborhood, business and advocacy interests within the Trans-Lake study area. The solutions identified represent a range of options for moving people and vehicles more efficiently through the SR 522, SR 520, and I-90 corridors, as well as a host of possibilities for curbing transportation demand and mitigating the impacts of roadway and transit improvements. The next step: a formal environmental impact study that will support a decision on a preferred solution.

The Study Committee's recommendations conclude: "We believe there is a fundamental link between the transportation decisions made as a result of this study and our region's ability to implement its growth management vision of strong interconnected urban centers, a healthy environment, a strong economy, and a firm urban growth boundary." The following pages explore the Trans-Lake traffic problem, the Study Committee's work, and the recommended solutions in greater detail.

In brief, the committee's recommendations are:

Mitigation and Enhancement: Use sensitive project design to avoid or minimize impacts, and engage communities in developing mitigation and enhancement options such as noise walls, lids, tunnels, and other measures.

SR 522: Add bus lanes, bike/pedestrian and safety improvements.

Kirkland-Seattle: Evaluate passenger-only ferries.

SR 520: Evaluate various combinations of alternatives:

- Replace the existing floating bridge (four general-purpose lanes)
- Provide a "minimal footprint" bridge with improved transit/HOV access
- Add one HOV lane in each direction
- Add one HOV lane in each direction plus high-capacity transit
- Add one HOV lane and one general-purpose lane in each direction
- Add one HOV lane and one general-purpose lane in each direction, plus high-capacity transit

I-90: Continue the current Sound Transit study to establish 2-way HOV/transit; in addition, preserve the option to convert to high-capacity transit.

Transportation Demand Management/Transportation Systems Management: Analyze the effects of "committing substantial resources" to TDM and TSM strategies such as transit and vanpool subsidies, changes to land use plans, trip reduction goals, transportation pricing, and bus/HOV system improvements.

Geography is Destiny:
Crossing Lake Washington

From top: Leschi Ferry in the '20s, the Lake Washington Pontoon Bridge in the '40s, and aerial photograph of the Evergreen Point Floating Bridge.

PHOTO CREDITS: *Leschi Ferry* - Pemco Webster & Stevens Collection, Museum of History and Industry. *Lake Washington Pontoon Bridge dedication:* Seattle Post-Intelligencer Collection, Museum of History and Industry.

In the Beginning

At eighteen miles long and as much as four miles wide, Lake Washington has always posed a challenge to travel in the Puget Sound region. Native Americans plied its waters in canoes, gathering salmon and visiting neighboring villages. European settlers founded communities on the lakeshore, but with no convenient transportation network the cities on the eastern and western shores remained largely independent of one another. Public ferry service began in 1900 with the side-wheeler *King County of Kent,* followed during the next two decades by the *Leschi,* the *Lincoln,* and the *Washington;* routes ran from Madison Park and Leschi on the west to Kirkland, Medina, and Mercer Island on the east. But with the limitations imposed by crossing times and vessel sizes, even multiple routes were not sufficient to fuel significant expansion of cross-lake commerce.

Until 1940, ferries were the only means of crossing the lake. But in that year, the Lake Washington Pontoon Bridge—now, an improved version, the I-90 floating bridge—ushered in a new era of regional travel. With the time required to cross the lake cut dramatically, the communities on the east became attractive residential choices for people working in downtown Seattle. Fueled by the postwar economic boom, Seattle followed the trend of cities nationwide, spawning growth in auto-oriented suburbs where workers could enjoy a quality of life they perceived as superior to that of urban neighborhoods. In January 1950 the *Leschi* made its last voyage from Madison Park to Kirkland, ending the era of ferry travel across Lake Washington and signaling the beginning of a new kind of growth.

Growth of the Eastside: From Suburbs to Software

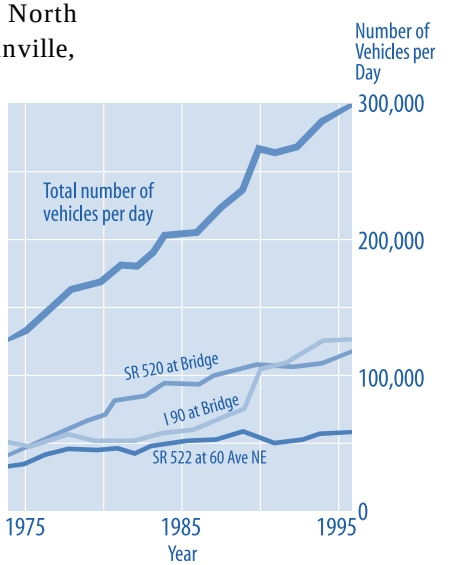
Bellevue, Kirkland, and other Eastside communities were primarily centers of agriculture until well into the

20th century. But between the opening of the first floating bridge—at a time when the combined population of Bellevue, Kirkland, Redmond, and Issaquah was about 5,000—and completion of the Evergreen Point floating bridge in 1963, the Eastside became the fastest-growing part of the metropolitan area. So many travelers took advantage of the Evergreen Point toll bridge (with a commute 10 minutes faster than the Mercer Island bridge) that the project's revenue bonds were repaid 20 years ahead of schedule. Bellevue began a long era of commercial development in the 1940s, when Bellevue Square opened for business; a wave of office construction in the 1980s gave the city its current skyline. Meanwhile, a fledgling Microsoft took root in Redmond and grew, in less than two decades, to a major Eastside employer and a driver of the regional economy. High-tech businesses congregated along the SR 520, I-90, and I-405 corridors, bringing in thousands of workers and making the "edge cities" economic powers in their own right.

At the same time, the north end of Lake Washington was also experiencing increasing growth. Seattle annexed the area north to 145th Street (the current city limit) in the 1940s; Lake Forest Park, originally a streetcar suburb, incorporated as a city in 1961. Later in the 1960s, the completion of I-405 and its linkages to SR 522 provided the area with a connection to the regional roadway system and an alternate route around the north end of the lake. Bothell expanded around its historic core to encompass increased residential and, over time, commercial and industrial development, generating jobs in the Canyon Park and North Creek campuses. And the 1990s saw the incorporation of Woodinville, Shoreline, and Kenmore—whose residents were as likely to commute to the east side of the lake as to the west.

Traffic, Traffic Everywhere

By 1979, when the last toll on the Evergreen Point floating bridge was paid, four times as many cars and trucks were crossing the bridge each day as when it opened in 1963. By 1988, that number had increased to seven times the original figure, and the bridge had become one of the state's worst traffic bottlenecks. Opening of the parallel I-90 span in 1989 provided additional traffic capacity, but not enough to offset the growth. Over the last 30 years, vehicle-miles traveled have grown one and one-half times as fast as employment and six times as fast as population. And, with employment growth on the Eastside outstripping that in Seattle, traffic is now heavy in both directions throughout the day. On SR 520 in particular, traffic volumes have been virtually equal in both directions since the late



Average Daily Trans-Lake Traffic

1980s; in fact, since 1993, peak afternoon traffic volumes have been slightly higher westbound than eastbound.

With the explosive growth in vehicle trips—and a decline in transit use as a percentage of total miles traveled—congestion has become a fact of life for people traveling across the lake. Almost all of the Puget Sound roadway network experiences congestion for 3 to 5 hours every afternoon, with several "hot spots" that suffer more than 5 hours of continuous congestion. The channeling of so much traffic into a limited number of lanes across and around the lake has a ripple effect on the entire system, as vehicles back up onto north-south freeways or seek alternative routes on arterial and neighborhood streets. Moving more people in more efficient ways has become an urgent issue from the standpoint of both economic competitiveness and quality of life—but the road to reaching that goal has been fraught with controversy.

Solutions in Gridlock

In the late 1930s, when the original floating bridge was under study, the Lake Washington Protective Association denounced the proposal as "a financial folly, an unnecessary tax burden, and a desecration of the lake." Twenty-five years later, the opening of the Evergreen Point bridge marked the end of a 15-year battle between bridge proponents and citizen groups in affected Seattle and Eastside neighborhoods. The passage of time has done little to defuse the debate, and instead has seen the increase of traffic congestion and the exacerbation of impacts on neighboring communities. Furthermore, the existing 520 bridge has a very limited remaining lifetime. A 1993 exploration of a public-private partnership to expand SR 520 in its existing corridor was the latest proposal to be defeated. In the last year, the listing of Puget Sound chinook salmon as an endangered species added another dimension to an already complex issue: any new construction in or near Lake Washington must balance impacts on fish habitat with those on human communities. Yet, with the region's population and jobs continuing to grow, pressure mounted for a better way to move traffic across and around the lake. It was clear that a new kind of process would be needed to reach a solution acceptable to the diverse interests involved.

Coming to the Table:
The Trans-Lake Washington Study

Genesis of the Study

The Trans-Lake Washington Study was authorized by the State Transportation Commission and funded by the State Legislature in 1997. Its purpose was envisioned as identifying a set of "reasonable and feasible solutions" to improve mobility across and/or around Lake Washington. Although the problem that motivated the study was congestion on SR 520, improvements were considered within an area from I-90 on the south to SR 522 on the north, and from west of I-5 to the eastern end of SR 520. The study was charged with integrating a wide variety of transportation options, including increased highway and transit capacity, travel demand management, new or enhanced bicycle and pedestrian facilities, and environmental mitigation and enhancements, into the proposed solutions. Recommended solutions would then be advanced into a phase of more detailed design and study.

"The 14-month Trans-Lake Washington Study process... has developed a remarkably knowledgeable group of citizens. Each person involved has devoted a considerable amount of time and passion to the way we move people and goods through the Trans-Lake corridors, and we have developed a considerable amount of respect and trust among ourselves."

—From the Study Committee Recommendations

The Study Committee: Who They Are, What They Represent

Administered through the Washington State Department of Transportation's Office of Urban Mobility, the Trans-Lake study was guided by a 47-member Study Committee, composed of representatives of public agencies, neighborhoods, businesses, and advocacy groups. The committee was appointed by Washington State's Secretary of Transportation, Sid Morrison, in May 1998. Its purpose was to involve all the diverse interests that would be affected by Trans-Lake solutions in the development of those solutions. The names and affiliations of committee members are shown on the inside back cover.

Community and Media Response

The inception of the Trans-Lake study was greeted with a certain amount of skepticism by a press and public unaccustomed to the politics of consensus. The *Seattle Times* remarked: "This early, the committee is a lump of interest groups instead of an organization with an allegiance to itself. …Wrapped in the shroud of inclusiveness, the Trans-Lake Committee is just now trying to define an issue that is apparent to everyone who gets up in the morning." Reports on divisions in the committee and lack of decision-making momentum were frequent in the early months of the process. "The draft version of a 'Road Map' for the coming months pinpoints June 1999 to recommend 'reasonable and feasible solutions'," noted the *Times*. "If they make that date, it will be a miracle."


The bridge to forever: fixing the 520 commute

Gridlock fighters stuck in 1st gear

What the Study Covers
(and what it doesn't)

Where Is the Trans-Lake Study Area?

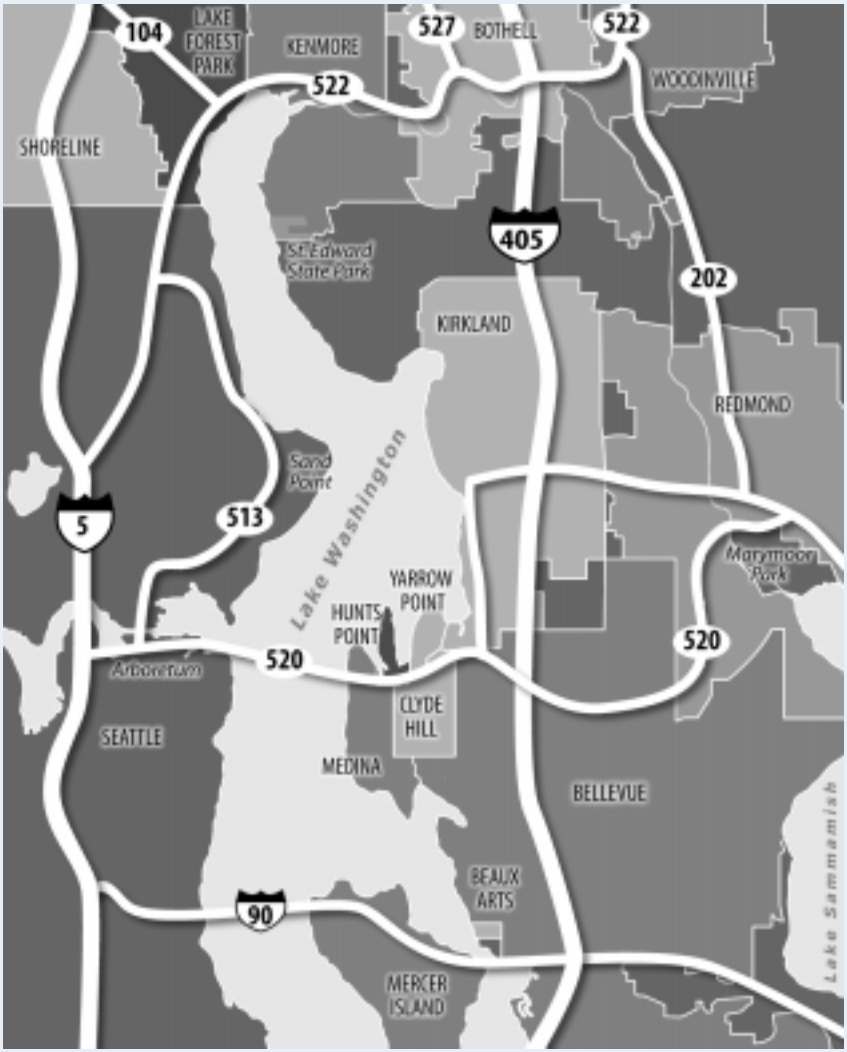
As noted in the previous section, the problem that motivated the Trans-Lake study was congestion on SR 520. However, because the roads and freeways that cross and encircle the lake are so interdependent—and because the study was designed to encourage thinking "out of the box," rather than within one narrow corridor—the study area was defined as encompassing the area from the Snohomish-King County line on the north through I-90 on the south, including the connecting stretches of I-5 and I-405, SR 522, SR 520 east to Redmond, and I-90 east to Issaquah. The Study Committee acknowledged that the effects of Trans-Lake traffic extended even beyond this area, but recognized that an exploration of the entire Puget Sound traffic system was beyond its purview. The map on the right shows the study area and the cities within it.

A Complex Web: Related Plans and Studies on the Regional Traffic System

With its many interwoven facilities, heavy vehicle volumes, and multiple travel modes, the Puget Sound regional traffic system is the subject of numerous ongoing studies and plans—many of which are related to the Trans-Lake study. The primary regional planning document for the region is the 1995 Metropolitan Transportation Plan (MTP), a detailed long-range plan that responds both to legislative mandates and to regional concerns about pressing transportation problems. Built on VISION 2020, the region's long-range growth management, economic, and transportation strategy, the MTP served as the basis for several of the solution sets developed in the Trans-Lake study.

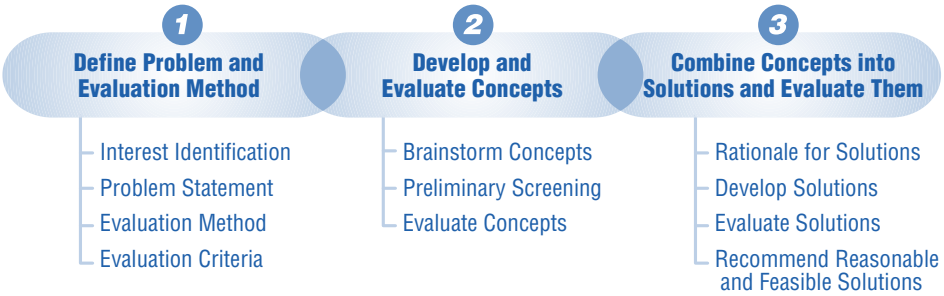
Several other studies are closely related to the Trans-Lake work. The I-405 Corridor Program and the East King County Corridor Needs Study, currently being conducted by the Office of Urban Mobility, are evaluating options for improving mobility on I-405 and investigating the feasibility of new transportation facilities serving east King County, with connections to I-5 on the north and south. Finally, ongoing planning by Sound Transit—in addition to providing a west-side light-rail "backbone" that may eventually serve Eastside connections—is also exploring the possibility of establishing two-way HOV/transit operation on I-90, an option that figures into some Trans-Lake solutions.

The Study Area Map



A Year of Options:
Developing and Evaluating Solutions

Over the 14-month course of the study, the Trans-Lake Study Committee participated in 17 multi-hour meetings, a full-day workshop, and a bus tour of the study area. The goal of the study was agreement among interests in the study area on a set of solutions with the potential to improve mobility across and around the lake. To reach this goal required a series of steps. The first step was to develop a problem statement to set the parameters for the study and the criteria to be used in assessing solutions. The second step was to identify and evaluate specific concepts for improving mobility, and—in a parallel effort—options for minimizing environmental impacts. The final step was to bring together transit and roadway options, demand management, non-motorized improvements, and environmental mitigation concepts into a set of integrated solutions. The chart on this page shows these steps in graphic form.



Framing the Problem

The Study Committee identified four problems that Trans-Lake solutions should address, each of which exists today and will become more critical in the future. These problems are summarized below:

- *Land use and transportation systems are not integrated in their planning and implementation.* The committee found that the evolution of the transportation system has not kept pace with rapid job and residential growth. Although regional growth management planning demands that population and employment growth be concentrated in urban areas, the infrastructure, transit service, and policies required to accommodate this growth have been only partially implemented—resulting in greater burdens on the existing system.

- *The transportation system suffers from extensive congestion.* The growth in vehicle-miles traveled has increased faster than the growth in population, causing congestion on Trans-Lake routes, north-south connectors, and adjacent arterial streets. This results in delays, loss of economic productivity, and reduced quality of life in the study area and the region.
- *Reliability and safety of the system are impaired.* Excessive congestion results in conditions where minor traffic incidents can generate extensive delays throughout the entire system; weaknesses or pinch points in the system such as connections with other roadways, lack of alternative travel modes, and substandard HOV lanes also make the system less reliable and create the potential for accidents. For example, the condition of the Evergreen Point bridge pontoons is a longer-term reliability and safety issue.
- *Neighborhoods, business centers and the environment are impacted.* Congestion on Trans-Lake routes causes air and noise pollution, reduces access through neighborhoods and commercial areas, and compromises the safety and enjoyment of pedestrians and bicyclists. As traffic on the major routes moves more and more slowly, "cut-through" traffic affects the quality of life in surrounding neighborhoods.

An Invitation to Brainstorm

The next step in developing solutions was to provide the building blocks: individual actions, programs, or projects that could contribute to improving mobility. These "concepts" answered the question: How many possible ways are there to improve the movement of people and goods across and around the north end of Lake Washington? The list of initial concepts, brainstormed by the Study Committee and augmented by public comments, suggested many more possibilities than the obvious ones. The full list included over 100 transit, roadway, and demand management/land use concepts, as well as concepts for enhancements and mitigation.

Members expressed a preference for holistic, systematic solutions that did not depend exclusively on a single mode or approach.

The ideas generated went far beyond expanding existing bridges—they included car and passenger ferries, brand-new crossings on bridges or submerged tubes, and many HOV and transit options, including various rail technologies such as light rail, monorail, and maglev (magnetically-levitated transport system). Demand management measures such as tolls, increased parking prices, gas taxes, and transit or

carpooling incentives were included in the mix, along with land-use changes to encourage people to work and shop near their homes and to use alternate modes of travel. With participants encouraged to think creatively, some unusual ideas emerged—including a system of catamarans in tubes and the complete elimination of cars in urban centers. However, the majority proposed small to large changes to existing transportation systems, plans, or policies.

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Covering the Spectrum—The Development of Solution Sets

In November 1998, the Study Committee embarked on an effort that would take shape over the next several months: the melding of individual mobility concepts with a set of strategies for addressing the full range of Trans-Lake issues. Each strategy would represent one possible approach to addressing Trans-Lake problems. Committee members developed six potential strategies, in addition to No Action. Members expressed a preference for holistic, systematic solutions that did not depend exclusively on a single mode or approach. With the strategies defining a range of choices, the committee participated in an exercise to mix and match the previously developed list of concepts to form a group of "solution sets."

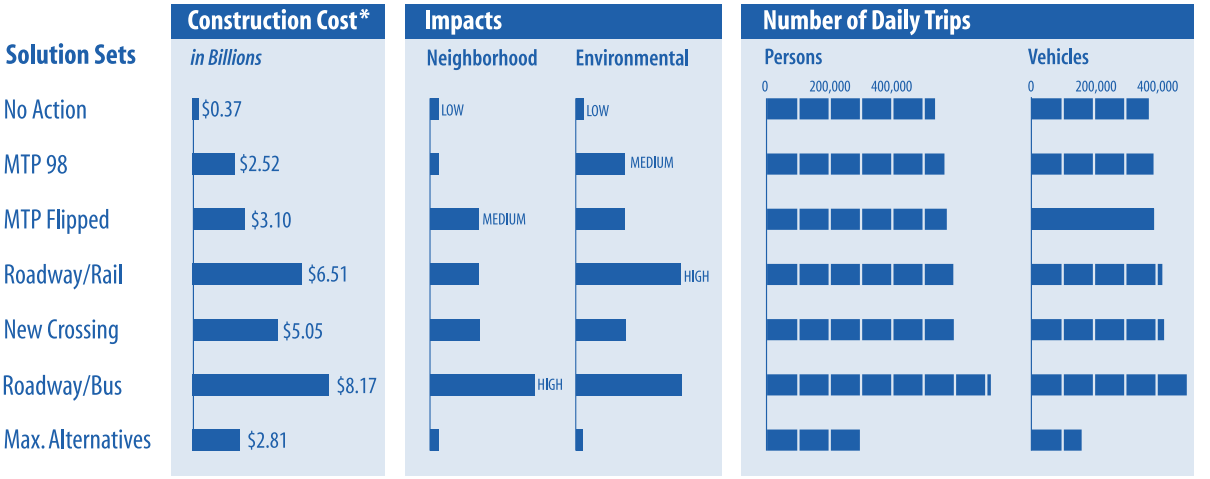
One solution set—dubbed MTP 98—closely followed the elements of the Puget Sound Regional Council's MTP, which focuses on concentrating housing and employment in activity centers served by transit and HOV systems as a way to minimize congestion. Another, called "MTP Flipped," was similar, but included rail transit on SR 520, rather than on I-90 as the MTP recommended. The Roadway/Rail solution set emphasized rail connections to the Eastside, including a light-rail line on SR 520; the New Crossing set featured a new Lake Washington bridge from Sand Point to Kirkland, with arterial connections on either side of the lake. Roadway capacity for single-occupant vehicles and freight, with buses as the primary mode of transit, was the focus of the Roadway/Bus solution set, which also included a new crossing connecting I-5 to I-405. And the Maximize Alternatives solution set sought to increase "alternative" choices for mobility by focusing on aggressive land use changes and transportation pricing, increased use of rail, and HOV system improvements.

During the next few months, the draft solution sets were refined to provide the optimum range of choices, and to define enough assumptions to allow comparative evaluation and a preliminary estimate of costs. The solution sets carried into the final evaluation are shown on page 11.

Draft Solution Sets

	SR 522	Sandpoint/ Kirkland	SR 520	I-90	All
No Action	Limited transit lane improvements	No Action	East of 104th has one HOV lane each way; Westbound HOV lane from 104th remains the same	Keep as is; Reversible express lanes stay in place	Moderate TDM / Improve bike and pedestrian facilities
MTP 98	Transit lanes in several segments; Signals with transit priority	No Action	Add HOV each way; Consider adding transit-only lane each way	Seattle / Bellevue / Overlake light rail route replaces center lanes; No other modes allowed in centerlanes	Aggressive TDM / Improve bike and pedestrian facilities
MTP Flipped	Transit lanes in several segments; Signals with transit priority	No Action	Add HOV each way; Light rail from Seattle/University District/Bellevue/ Overlake uses SR 520 crossing	Center roadway would provide 2-way continuous HOV operations	Aggressive TDM / Improve bike and pedestrian facilities
Roadway/Rail	Transit lanes in several segments; Signals with transit priority	No Action	Add one General Purpose lane each way. Light rail from Redmond to University District to Ballard uses SR 520 crossing and is generally along SR 520 to Redmond	Seattle / Bellevue / Totem Lake light rail route replaces center lanes; No other modes allowed in center lanes	Aggressive TDM / Improve bike and pedestrian facilities
New Crossing	Transit lanes between I-405 & SR 523; Signals with transit priority on SR 522 & SR 523	Kirkland / Sandpoint arterial – a new 4-lane bridge connecting Sandpoint Way to NE 124th in Kirkland; Light rail route from Redmond to University District would use new crossing	Add HOV lane each way	Seattle / Bellevue / Redmond light rail route replaces center lanes; No other modes allowed in center lanes	Aggressive TDM / Improve bike and pedestrian facilities
Roadway/Bus	Add HOV lanes from I-405 to SR 523. Add HOV lanes on SR 523	Two General Purpose lanes and one HOV lane from I-5 to I-405 each way on a new floating bridge (tunnels connect bridge to I-5 and I-405); Kirkland to Sandpoint bus ferry	Add one HOV lane each way; Add one General Purpose lane each way	Center lanes provide continuous 2-way HOV operations	Aggressive TDM / Improve bike and pedestrian facilities
Maximize Alternatives	Transit lanes in both directions; Signals with transit priority	Kirkland/Montlake passenger-only ferry	One lane each way is converted to HOV	Seattle/Bellevue/ Redmond light rail route replaces center lanes; No other modes allowed in center lanes	Very Aggressive TDM / Improve bike & pedestrian facilities; Congestion pricing/ tolls on trans-lake crossings

Solution Set Evaluations - At A Glance

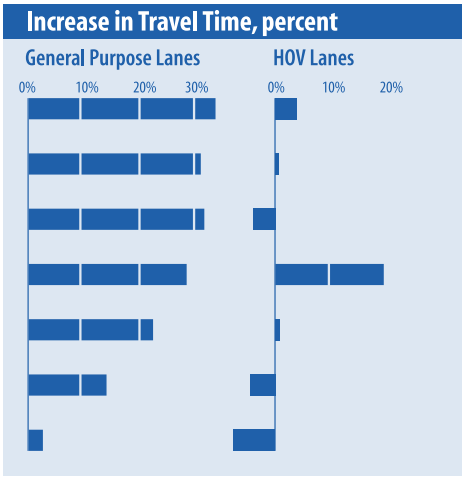


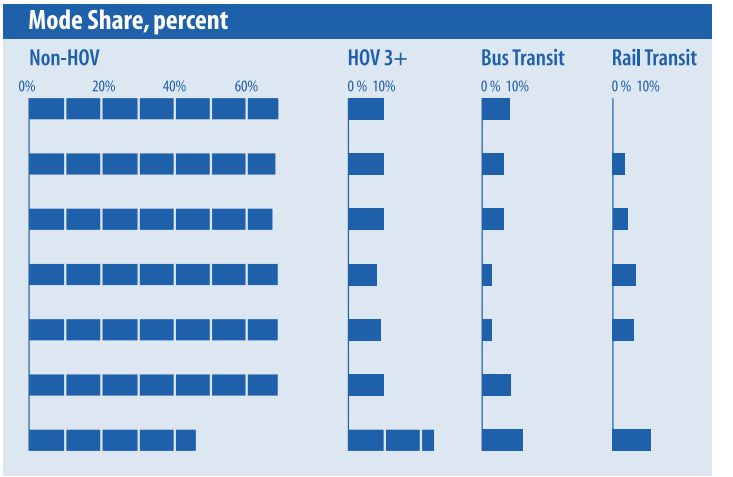
Does not include mitigation costs.

Evaluation: Getting to Yes

Clearly, the goal of better mobility across Lake Washington cannot be reached without consequences—and the nature of those consequences will vary according to the chosen solution. The benefits and tradeoffs of the solutions in terms of neighborhoods, parks, endangered species, and other aspects of the built and natural environment were the primary topic of Study Committee discussions early on. With the seven solution sets fleshed out in some detail—including routes, approximate right-of-way widths, and interfaces with other parts of the regional transit system—their potential impacts could be evaluated, allowing the committee to discuss the relative pros and cons of each solution set.

For the initial impact assessment, study staff literally took a "big-picture" look—via aerial photos and environmental data—at each of the corridors where improvements could be made: SR 522, the potential Kirkland-to-Sand Point crossing, SR 520, and I-90. Potential impacts were rated in a number of categories, including noise, displacements, arterial traffic, support of local comprehensive plans, physical barriers, parks and refuges, Endangered Species Act issues, and air and water quality. Following the presentation of impacts, the Study Committee developed ideas for potential mitigation in different sections of the study area. Concepts included moving the alignment in some locations to minimize impacts; providing lids in high-impact areas, with recreational facilities included as part of the lid design; double-decking roadways in some areas; landscaping and noise walls; stormwater





collection and treatment; and consideration of tunnels rather than a surface freeway to connect the Sand Point-to-Kirkland bridge to I-5 on the west and I-405 on the east.

The Study Committee discussed the results of the staff evaluation and modeling of the effectiveness, impacts, and costs of the solutions. The evaluation results are shown graphically across the top of this page. Press coverage focused on price tags of up to $8 billion (not including mitigation costs) for the Roadway / Bus solution set. At a cost of about double that of the Sound Transit program, this option would constitute the largest capital project ever undertaken in the Puget Sound region. Later, the news that made the headlines was mitigation costs—including a preliminary estimate of $2 billion for a full SR 520 lid between Lake Washington and Bellevue Way, called for in resolutions adopted by Medina, Hunts Point, and Clyde Hill to address the potential effects of widening SR 520 to six or more lanes.


Mitigation costs for 520 upgrades draw some gasps

Traffic fixes cause sticker shock

The Study Committee then began the task that was its ultimate charge: deciding on the components of three to four reasonable and feasible solutions to be carried forward for further analysis. Having studied the facts regarding costs, impacts, and effectiveness, committee members started the work of crafting recommendations—picking and choosing mobility projects, demand management approaches, and mitigation measures that together would have the potential to lessen Trans-Lake congestion.

Reaching Out:
Listening to the Public

In addition to the many interests represented on the Study Committee, a broad public involvement program provided continuous outreach and education to the neighbors and users of the Trans-Lake transportation system. This section describes some of the ways the public participated in the study.

Workshops: Designing Mobility

The first public workshops on the study, held in September and October 1998, attracted approximately 70 members of the public who provided project staff and Study Committee members with their viewpoints on the problem statement, concepts for solving the problem, and suggested screening criteria. Participants at the events, held in Kenmore, Bellevue, and Seattle, recognized the complexity of the issues.

Regarding potential concepts for improving mobility, participants endorsed ideas ranging from construction of new lanes on SR 520 or a bridge farther north, to a "no new concrete" alternative, to a water taxi service, to covered bicycle lanes, to drivers' education programs to improve traffic flow. Many people suggested using other metropolitan areas as models for solving the problem. While some participants expressed strong support for increased transit and HOV programs, others were skeptical: "Society is choosing that they love their cars and want to drive," said a commenter.

"The solutions have to strive for balance," was one comment. "What is one neighborhood's solution, for example, might create negative impacts in another neighborhood. We have to make sure the solutions are balanced in a way that accounts for these differences."

Over 200 people turned out in Seattle, Bellevue, Lake Forest Park, and Kirkland over four evenings in May and June 1999 to learn more about the Trans-Lake solution sets and to express their opinions on the best—and worst—choices for improving mobility. A game called "Red Light, Green Light" invited participants to choose what solution set they liked best and which they "couldn't live with." A number of participants expressed support for adding HOV or general-purpose capacity to SR 520, as well as increasing regional emphasis on transportation demand management. Solutions involving a new Sand Point-to-Kirkland bridge were controversial. The New Crossing solution set , which included a new arterial crossing from Sand Point Way to NE 124th in Kirkland, received very little support. The Roadway / Bus solution set, which included a floating bridge with tunnel connections from I-5 to

I-405, was viewed unfavorably overall at the Bellevue and Montlake meetings, but did receive some positive support at all four meetings.

Trans-Lake Give and Take: Newsletter, Hotline, and Online

Those interested in commenting on the study had a number of other forums for involvement. The Crossings newsletter, inaugurated in September 1998, provided over 3,000 monthly readers with updates on Study Committee progress and notice of upcoming events. Each newsletter contained a comment form that could be returned via mail or fax; in all, about 150 readers responded using the form. The toll-free study hotline provided recorded information on the study's status and upcoming events, and invited callers to record messages (nearly 200 were received over the course of the study). The Trans-Lake web site provided a chance for online citizens to chart the study's progress via the Crossings newsletter, download related documents, sign up for the mailing list, and e-mail questions or comments on the study. Approximately 300 people submitted comments by this medium. All comments received during each month were compiled and distributed to Study Committee members at their regular meetings.

"I attended last night's workshop at the Museum of History and Industry. I found it enjoyable and thought provoking, and was impressed with the civility of the proceedings."

–Hotline response from workshop participant

Surveys: Where Are You Driving, and What Do You Think?

To identify the travel patterns of motorists using the SR 522, I-90, and / or SR 520 corridors, an "origin and destination" survey was done as part of the Trans-Lake study. A total of 2,300 surveys were returned and analyzed. The survey consisted of twenty questions, including trip origin and destination, trip purpose, and the number of vehicle occupants, as well as questions about how the survey respondent rated travel in the study area and dealt with traffic congestion.

Also completed as part of the study was a random telephone survey of 1,068 people who resided within the Trans-Lake study area. The survey aimed to assess two primary issues – the community's perspectives on Trans-Lake traffic-related problems, and the level of support for the various transportation improvements that the Study Committee was considering. The majority of people saw congestion in the Trans-Lake study area as a very significant problem. More than one-third of the respondents chose rail as their most favored transportation improvement. While expanded bus service ranked relatively high as a favored solution, nearly half of the respondents said that they were more likely to use general-purpose lanes than ride the bus. Doing nothing and collecting tolls were both options with little support.

Getting to Consensus:
Study Committee Recommendations

"We believe there is a fundamental link between the transportation decisions made as a result of this study and our region's ability to implement its growth management vision of strong interconnected urban centers, a healthy environment, a strong economy, and a firm urban growth boundary."

A Historic Agreement

At a meeting in May 1999, the Study Committee agreed on how it would make its decisions on a set of reasonable and feasible solutions. The group confirmed that its goal would be to reach consensus—meaning that all 47 members would be able to "live with" a specific set of recommendations that would move forward for further evaluation. A fallback voting process was also decided on, in the event the group had worked hard to reach consensus but was unable to agree. For significant procedural issues, such as solutions to be further analyzed by the consultants, a vote of 60 percent of the members present at a meeting would be required in order for the issue to be affirmed. This "super-majority" approach would also be used if consensus was not reached on a set of recommended reasonable and feasible solutions.

The Trans-Lake Washington Study Committee finished its work on July 16, 1999. In a marathon eight-hour meeting, the members representing the governments and the business and neighborhood interests in the study area worked together to finish hammering out language for recommendations that they could all – or nearly all – support. In the end, all but three members agreed to sign the Findings and Recommendations and celebrated a historic moment by breaking a 30-year impasse in considering solutions to SR 520 Trans-Lake congestion. Those findings and recommendations are presented below verbatim.

Study Committee Findings and Recommendations

Background

The Trans-Lake Washington Study Committee was appointed by Secretary of Transportation, Sid Morrison, in May of 1998 to recommend a set of reasonable and feasible solutions to improve mobility across and around the north end of Lake Washington. The 47-person Study Committee has represented local governments and state and regional agencies, as well as neighborhood, business and advocacy interests within the Trans-Lake corridor.

Over a 14-month period, the Trans-Lake Washington Study Committee has agreed on a problem statement and has developed and evaluated alternative mobility concepts across a full range of transportation solutions. The Study Committee now recommends an array of Trans-Lake alternative solutions to be carried forward to a formal environmental impact study. Given that our recommendations extend beyond the highway system and include other modes of travel, we further recommend that the EIS be conducted under the aegis of the Washington State Department of Transportation as well as other governmental bodies with jurisdiction over the proposals included in this report.

Problem Statement

The Study Committee has identified four problems that Trans-Lake solutions should address; each exists today and will become more critical in the future:

1. Land use and transportation systems are not integrated in their planning and implementation,
2. The transportation system suffers from extensive congestion,
3. Reliability and safety of the system are impaired, and
4. Neighborhoods, business centers and the environment are impacted.

Guiding Principles

The Committee believes that several guiding principles apply to all of our recommendations:

- Integration of the urban areas is essential and future actions should build on the positive inter-relationships among the communities adjacent to the Trans-Lake corridors.
- Balance is needed among modes, corridors, and systems.
- There must be high standards of performance and superior quality of work on any project, program, or design, including environmental and other enhancements and mitigation.
- Options recommended should provide viable transportation choices and increase the choices among those.
- In our urban areas adjacent to the Trans-Lake study, any proposals should accommodate new jobs, growth, and individual and community prosperity.
- Many recommendations will require extensive study and time before implementation. All actions, including early actions (see attachment), should be examined to facilitate swift and appropriate implementation.
- There needs to be much more extensive engagement of the public and affected community input through the early actions, the EIS process and the choice of preferred alternatives, project design, preliminary engineering, and project implementation.
- More complete EIS analysis of potential actions to address the stated problems is required before recommending the preferred set of actions. The EIS should clearly state assumptions for the transportation modeling.
- In parallel with the EIS, we also recommend identifying potential funding sources for implementing each option.
- Whatever decision moves forward should be sufficiently flexible to accommodate new ideas and technologies.
- There should be consideration of broader economic and urban development impacts of options evaluated, including, but not limited to: the relationship of urban mobility to the growth of population and employment; socioeconomic impacts of changes to local and regional commute patterns, modes, durations and distance; impacts on employment opportunities; and land use.
- The evaluation should identify the consequences of finding/not finding a way to either: a) accommodate; b) encourage the elimination or diversion of; or c) provide feasible alternatives to forecasted demand for Trans-Lake travel.

Recommendations

One clear conclusion of the Study Committee is that no single action, by itself, will provide an adequate response to these problems – several actions will be needed that together will provide additional capacity, improve the reliability of the transportation system, reduce demand for highway travel, and reduce impacts of transportation facilities on neighborhoods and the environment.

Recommendations for Community Enhancement and Mitigation

- Mitigation and enhancement must be integral to and inseparable from the proposed transportation improvements. Mitigation and enhancement should start with sensitive project design where potential impacts are minimized wherever possible. Project design and mitigation elements should potentially include lids, multiple-level structures, grade separation, tunnels and other significant treatments such as those which have been and will be suggested by the affected communities. Mitigation of impacts caused by existing transportation facilities must be considered along with new impacts. The magnitude of mitigation measures must be commensurate with the amount of impact caused by the action.
- An extensive and active involvement process to engage affected communities and regional interests, including local jurisdictions, neighborhoods, resource/regional economic development agencies, and employers, should be integral to

the EIS and design and construction process to identify near-term and longer-term impacts, community objectives, and mitigations and enhancements that will accompany any mobility improvement.

- The transportation alternatives developed should be designed to avoid or minimize identified impacts. The following issues have been identified as being particularly significant in the Trans-Lake study area:
  - *Noise and vibration*
  - *Transportation corridor widening, especially if it will result in displacements or encroachments*
  - *Impact to intersecting freeways*
  - *Impacts on arterial access routes that impede local circulation and other neighborhood functions*
  - *Cut-through traffic using local streets to avoid freeway congestion*
  - *Visual impacts*
  - *Water quantity and quality impacts*
  - *Air quality impacts*
  - *Impacts to endangered species*
  - *Impacts to sensitive areas, parks, and historic sites*
  - *Consistency with local and regional growth management and economic plans*
  - *Impacts to regional and sub-regional economic development and job creation and recruitment*
- Transportation alternatives should enhance local communities by taking advantage of opportunities to:
  - *Implement objectives of local and regional plans*
  - *Improve transportation safety and reliability*
  - *Improve access and mobility for pedestrians and bicyclists*
  - *Connect neighborhoods separated by transportation facilities*
  - *Improve the visual appearance of transportation facilities*
  - *Provide space for community-desired uses*
  - *Enhance and preserve sensitive areas, parks, and historic sites*
  - *Maintain a strong base of employment and enhance economic opportunities for individuals and communities*
  - *Produce commute options that assure dependable and acceptable commute times*

Recommendations for SR 522

- Transit lanes, signal priority, bicycle, pedestrian and safety improvements along SR 522, as called for by the SR 522 Multimodal Corridor study, and east-west connectors to and from I-5, as appropriate, should be implemented.

Recommendations for the Kirkland/Sand Point Corridor

- The committee has examined the possibility of a third Trans-Lake crossing from the Kirkland to Sand Point areas, but does not recommend that a new crossing be evaluated in the EIS.
- A separate study should be undertaken to analyze current and longer-term east-west travel demand north of Lake Washington. This study should accommodate emerging land uses to the north of the Lake, and include a focus on transit needs as well as acknowledging non-commute capacity needs.
- The Trans-Lake study showed that car or bus ferries would have significant impacts at loading points, and passenger-only ferries would not substantially enhance people-moving capacity. The committee recommends, however, that passenger ferry options across Lake Washington should be studied further, with emphasis on private operation.

Recommendations for the SR 520 Corridor

- Floating bridge pontoons must be replaced within their maximum remaining 25-year service life.
- Roadway shoulders and bicycle and pedestrian facilities should be considered as part of any new or replaced bridge crossing.
- The EIS should evaluate the following combinations of additional transportation elements in each direction on SR 520:
  - *One HOV lane in each direction*
  - *One HOV lane in each direction and high-capacity transit*
  - *One HOV lane in each direction and one general purpose lane in each direction*
  - *One HOV lane in each direction, high-capacity transit, and one general purpose lane in each direction*

- These combinations should be evaluated along with a No Action and a Minimum Footprint alternative. The Minimum Footprint alternative would include maintaining the existing four lanes while improving transit and HOV access to SR 520, bicycle/pedestrian access, and providing for a median barrier and minimum roadway shoulders while maintaining a minimal footprint.
- During the EIS process, each of these options should be more fully specified. Those specifications would identify where added lanes would begin and end, whether the SR 520 corridor is the best route for a cross-lake high-capacity transit route, whether and how I-5 and I-405 freeway interchanges to SR 520 should be modified, and whether and how arterial connections to SR 520 should be modified, added, or removed.

Recommendations for the I-90 Corridor

- There should be continued study of Sound Transit's proposal to establish 2-way HOV/transit operation on I-90. I-90 should remain convertible to include high-capacity transit in the future.
- Freight mobility in the I-90 corridor should be preserved and enhanced.

Recommendations for High-Capacity Transit

- Preference should be placed on high-capacity transit in the SR 520 corridor. In the event that technical constraints limit consideration of high-capacity transit as an integral SR 520 structural component, other alignments, including an exclusive right of way for high-capacity transit, should be considered. Provision of high-capacity transit will not eliminate the need for other Trans-Lake improvements, and implementation of high-capacity transit should not result in reduced Trans-Lake HOV capacity overall.

Recommendations for Transportation Demand Management and Transportation System Management

- Transportation Demand Management (TDM) measures that build and expand on the region's considerable commitment and success in commute trip reduction programs should be analyzed in any environmental impact analysis. The analysis should assess the impact of committing substantial resources toward TDM measures. The analysis should include both land use actions and effective trip reduction measures, while enhancing commercial traffic mobility. A list of potential TDM measures to be considered is included in the committee's technical report.
- Inter-local corridor agreements should be developed and enhanced to implement TDM and Transportation System Management (TSM) measures. Such inter-local agreements should include trip reduction goals with milestones and monitoring plans, and funding to prepare and monitor implementation of trip reduction plans. These recommendations anticipate cooperative leveraging of WSDOT and non-WSDOT funds, with involvement of local and regional jurisdictions. They also encourage providing public incentives for implementing TDM, to be carried out by the public and/or private sectors.
- TSM actions, which are defined as improvements to transportation systems, including arterials, that improve speed, reliability, access, and traveler information, should be analyzed. Measures that could be implemented in the short term and/or at low and moderate cost should be identified and implemented as rapidly as possible. (Some examples of potential early actions that have been suggested by members of the Study Committee are included as an attachment.)
- How we price transportation should be further studied on a regional, rather than on a corridor basis, consistent with the Puget Sound Regional Council's Pricing Task Force.

Conclusion

The 14-month Trans-Lake Washington Study process, which brought 47 community representatives (and nearly as many alternates) to the table to discuss transportation priorities for the future, has developed a remarkably knowledgeable group of citizens. Each person involved has devoted a considerable amount of time and passion to the cause of enhancing the way we move people and goods through the Trans-Lake corridors and we have developed a considerable amount of respect and trust among ourselves.

We believe there is a fundamental link between the transportation decisions made as a result of this study and our region's ability to implement its growth management vision of strong interconnected urban centers, a healthy environment, a strong economy, and a firm urban growth boundary. In the final analysis, growth management cannot be achieved without a transportation system that will support mobility needs within an increasingly dense and large urban area. Unless people and goods are able to move around efficiently within the urban growth area, growth management will ultimately fail.

ATTACHMENT

Recommended "Early Actions" to Expedite Trans-Lake Progress

(Subject to relevant agencies' processes and resources.)

Many of the recommendations of the committee will require extensive study, and their implementation will take many years. The committee sees actions that can be taken in the short term, based on policy decisions or actions of existing programs outside of the EIS. Other items may be implementable in the mid-range (4-10 years), based on the outcome of further environmental study. The committee recommends that such early-term actions be taken by appropriate entities as rapidly as possible to address Trans-Lake problems. These include:

Trans-Lake Wide Principles

The region's Trans-Lake transportation problems are not merely those concerned with new or modified facilities. A host of day-to-day operational problems exist and need attention in the interim. These include recommending that WSDOT improve safety and convenience for pedestrians' and bicyclists' access to existing facilities, mitigate noise and cut through traffic problems, and improve HOV/transit speed and reliability throughout the Trans-Lake study area. A variety of entities should build on successful examples of and provide incentives to increase use of HOV/transit in the study area. In addition, specifically:

- We recommend that the TDM Roundtable, as convened by the Puget Sound Regional Council, include in its work plan an early focus on funding, strengthening and the coordination of TDM programs in the Trans-Lake corridors.
- WSDOT should develop an emergency plan for all Trans-Lake corridors that, among other alternatives, studies the feasibility of giving preference to HOV, transit, and freight on a temporary basis in an emergency.
- King County should reexamine its transit zone structure to more accurately reflect distances traveled.
- WSDOT should implement an expanded motorist service patrol program throughout the Trans-Lake corridor.

SR 520 Actions

- WSDOT should work with affected communities to examine and implement (where shown effective) improved ramp metering operation eastbound and westbound on SR 520.
- WSDOT should accelerate priority for installing stormwater runoff management systems for reducing polluting runoff from the existing highway into Lake Washington and adjoining waters.
- WSDOT should examine the noise from joint vibrations on the existing bridge, reduce it if possible, and investigate other near-term noise mitigation techniques.
- WSDOT, in conjunction with local jurisdictions, should take measures to reduce noise from trucks using compression brakes.
- Local and state law enforcement agencies should provide greater enforcement of HOV laws in the corridor.
- WSDOT, King County, and local jurisdictions should improve bicycle access through consideration of a range of techniques, potentially including lockers, trails, and access via bike trailers during peak hours.

SR 513 (Montlake Boulevard) Actions

- SEATRAN and WSDOT should request the Coast Guard to keep the Montlake Bridge down during the evening peak hours (3-7 p.m.).
- SEATRAN and King County should examine the location of bus stops to improve transit priority coming from Pacific Avenue onto Montlake Boulevard southbound, and for northbound Montlake bus traffic.
- SEATRAN and King County should study southbound HOV/transit lane possibilities on SR 513, in conjunction with local neighborhoods.
- SEATRAN and WSDOT should make improvements to traffic information systems (e.g. radio, signs), north of 45th, approaching SR 520 southbound to Montlake.

I-5 Actions

- WSDOT should explore allowing transit to use the I-5 north mainline shoulder to the SR 520 exit for an express bus/HOV lane during peak periods.
- WSDOT should study converting I-5 express lanes to become two-way transit or transit/HOV lanes during current open hours (barrier separated).

SR 522 Actions

· WSDOT, King County, and local jurisdictions should provide preferential treatment for transit and HOV, as stated in the SR 522 recommendations.

High-Capacity Transit Actions

· Sound Transit should accelerate its planning for high-capacity transit alternatives for Trans-Lake service to serve as input to the EIS resulting from the Trans-Lake Washington Study Committee recommendations.

We affirm that this report contains the findings and recommendations of the Trans-Lake Washington Study Committee to the Washington State Transportation Commission and that these recommendations are a fair compilation and description of our deliberations. We forward for study an array of ideas. We note that our recommendation to further evaluate an idea is not, at this time, an endorsement by individual members to implement any specific solution.

Respectfully Submitted:

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Dan Becker, Points Committee
Councilmember Richard Conlin, City of Seattle
David Cortelyou, Seattle Business
Paul Cowles, North Lake Business
Commissioner Aubrey Davis, Washington State Transportation Commission
Bob Edwards, Puget Sound Regional Council
Margaret Doman, Eastside Neighborhoods
Councilmember Maggi Fimia, King County
Councilmember Nona Ganz, City of Kirkland
Mary Gates, Sound Transit
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Mark Weed, Seattle Business

Also on the Study Committee were: Dick Adams, T.R.U.S.T., Maynard Arsove, No Expansion of 520, and Representative Cheryl Pflug, Washington State House of Representatives

The Horizon:

Where Do We Go from Here?

The Next Steps

The Committee's recommendations will be presented to the Washington Transportation Commission, the Washington Legislature, Sound Transit, Puget Sound Regional Council, and the local governments in the study area – all players in deciding how to implement the various recommendations. For the recommendation to analyze the SR 520 corridor alternatives, decisions will need to be made about which government agencies will join together to manage the environmental impact statement (EIS) process and what the scope of the analysis will be. And finally, before work can actually begin on preparing an EIS, funding must be obtained.

Stay tuned as the process unfolds. Though the Trans-Lake Washington Study is complete, it will be many years before the environmental analysis is completed, and final decisions made and implemented. In the meantime, the Study Committee's Recommended Early Actions (included in the previous section) provide a list of near-term opportunities to begin to address the Trans-Lake problems.

For additional information — including the final technical report and all Trans-Lake Washington Study documents referenced in this overview —

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